

We claim:

1. A magnetic storage system, comprising:
  - at least one write coil to generate a magnetic field for at least a plurality of bit intervals;
  - a magnetic storage medium; and
  - at least one shutter to selectively allow said magnetic field to alter a magnetic domain of said magnetic storage medium.
- 10 2. The magnetic storage system of claim 1, further comprising at least one magnetic pole segment to provide a loop between said at least one write coil and said magnetic storage medium.
- 15 3. The magnetic storage system of claim 1, comprising a first write coil to generate a positive magnetic field, a second write coil to generate a negative magnetic field, and at least two shutters to selectively allow said positive or negative magnetic fields to alter said magnetic domain of said magnetic storage medium.
- 20 4. The magnetic storage system of claim 3, wherein said positive or negative magnetic fields alter said magnetic domain in a collocated region of said magnetic storage medium.
- 25 5. The magnetic storage system of claim 3, further comprising a first set of magnetic pole segments to provide a first loop between said first write coil and said magnetic storage medium and a second set of magnetic pole segments to provide a second loop between said second write coil and said magnetic storage medium.
6. The magnetic storage system of claim 1, wherein a position of said shutter is adjusted using a micro-electro mechanical system.

7. The magnetic storage system of claim 1, wherein at least one of said shutters is coated with a magnetic shielding.
8. The magnetic storage system of claim 7, wherein said magnetic shielding is 5 comprised of Nickel.
9. The magnetic storage system of claim 7, wherein said magnetic shielding is comprised of Cobalt.
10. 10. A method for recording information in a magnetic storage medium, said method comprising the steps of:  
generating a magnetic field for at least a plurality of bit intervals; and  
selectively allowing said magnetic field to alter a magnetic domain of said magnetic storage medium for each bit interval.
- 15 11. The method of claim 10, further comprising the steps of generating a positive magnetic field and a negative magnetic field, and selectively allowing said positive or negative magnetic fields to alter said magnetic domain of said magnetic storage medium.
- 20 12. The method of claim 11, wherein said positive or negative magnetic fields alter said magnetic domain in a collocated region of said magnetic storage medium.
- 25 13. The method of claim 10, wherein said step of selectively allowing said magnetic field to alter a magnetic domain is performed by at least one shutter and said method further comprises the step of adjusting a position of said shutter using a micro-electro mechanical system.
14. A write head for a magnetic storage system, comprising:  
at least one write coil to generate a magnetic field for at least a plurality of bit 30 intervals; and

at least one shutter to selectively allow said magnetic field to alter a magnetic domain of a magnetic storage medium.

15. The write head of claim 14, further comprising at least one magnetic pole segment  
5 to provide a loop between said at least one write coil and said magnetic storage medium.

16. The write head of claim 14, comprising a first write coil to generate a positive magnetic field, a second write coil to generate a negative magnetic field, and at least two shutters to selectively allow said positive or negative magnetic fields to alter said magnetic domain of  
10 said magnetic storage medium.

17. The write head of claim 16, wherein said positive or negative magnetic fields alter said magnetic domain in a collocated region of said magnetic storage medium.

15 18. The write head of claim 16, further comprising a first set of magnetic pole segments to provide a first loop between said first write coil and said magnetic storage medium and a second set of magnetic pole segments to provide a second loop between said second write coil and said magnetic storage medium.

20 19. The write head of claim 14, wherein a position of said shutter is adjusted using a micro-electro mechanical system.

20. The write head of claim 14, wherein at least one of said shutters is coated with a magnetic shielding.